

col



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,880	09/29/2000	Tatsuhiko Nakada	500.39117X00	9478
24956	7590	09/13/2005		
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314				
			EXAMINER JONES, PRENELL P	
			ART UNIT 2667	PAPER NUMBER

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental  
Notice of Allowability**

Application No.

09/672,880

Examiner

Prenell P. Jones

Applicant(s)

NAKADA, TATSUHIRO

Art Unit

2667

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/29/04.
2. ☒ The allowed claim(s) is/are 1,2,4,6,7,14,15,17,19,20,26,27 and 30.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 2/10/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on February 10, 2005 was filed after the mailing date of the Notice of Allowance on January 24, 2005. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

***Allowable Subject Matter***

1. Claims 1, 2, 4, 6, 7, 14, 15, 17, 19, 20, 26, 27 and 30 are allowed over prior art.
2. The following is an examiner's statement of reasons for allowance: Applicant has amended claims to correct previous 112, second paragraph rejection, and Applicant has canceled previously rejected claims 3-5, 8-13, 16, 18, 21-25, 28, 29 and 31-36.

Although the prior art discloses a receiver for OFDM modulated transmission signal, wherein there includes sample sequence data for determining a cross-correlation calculator, calculate cross-correlation values, synchronizing symbols are added to frames, detecting synchronizing patterns in sample sequence, sample clock sequence, controlling clock frequency in response to time intervals, a controllable clock generator used to produce receiver sampling clock sequence with controllable sampling data, reproductions of synchronizing symbols are synchronization patterns, production of an auxiliary/main synchronizing symbols, and it is preferred that synchronizing symbol produces a sharp autocorrelation peak, voltage controlled oscillator, frame/symbol clock sequences, a selector that compares correlation values with respect to their peaks, a multi-carrier transmission system associated with OFDM signaling wherein the

Art Unit: 2667

architecture includes system controller, symbol detection, sampling clock controlled by frame time estimator, correlator and peak estimator (correlation arithmetic), transmitter/receiver devices, inter-symbol interference peak detector for detecting peak levels, sampling clock generated by a voltage controlled crystal oscillator, predefined symbol carriers define inter-symbol interference, a receiver for multi-carrier signals that are transmitted by OFDM which includes estimation/correction circuit, wherein the architecture includes correlation circuits that have peak tracking, difference signal for samples, first symbol carrier and inter-symbol interference carrier, peaks are detected by peak detectors, FFT windows necessary for signal reconstruction, FFT window synchronization circuit and frame/symbol periods, frequency controller suspends control of the controllable oscillator, and the interference is minimized with respect to the carrier modes they fail to teach/suggest in a predetermined time window provided with position of a null symbol, and obtaining cross-correlation peaks in a principle wave, and reflected wave in a comparison of cross correlation value with a predetermined value, an interference discrimination unit coupled with a correlation arithmetic operation unit, for detecting which peak is a less inter-symbol interference in a cross-correlation peaks obtained from a principle wave and reflected wave.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2667

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones 

September 6, 2005